FIG.1

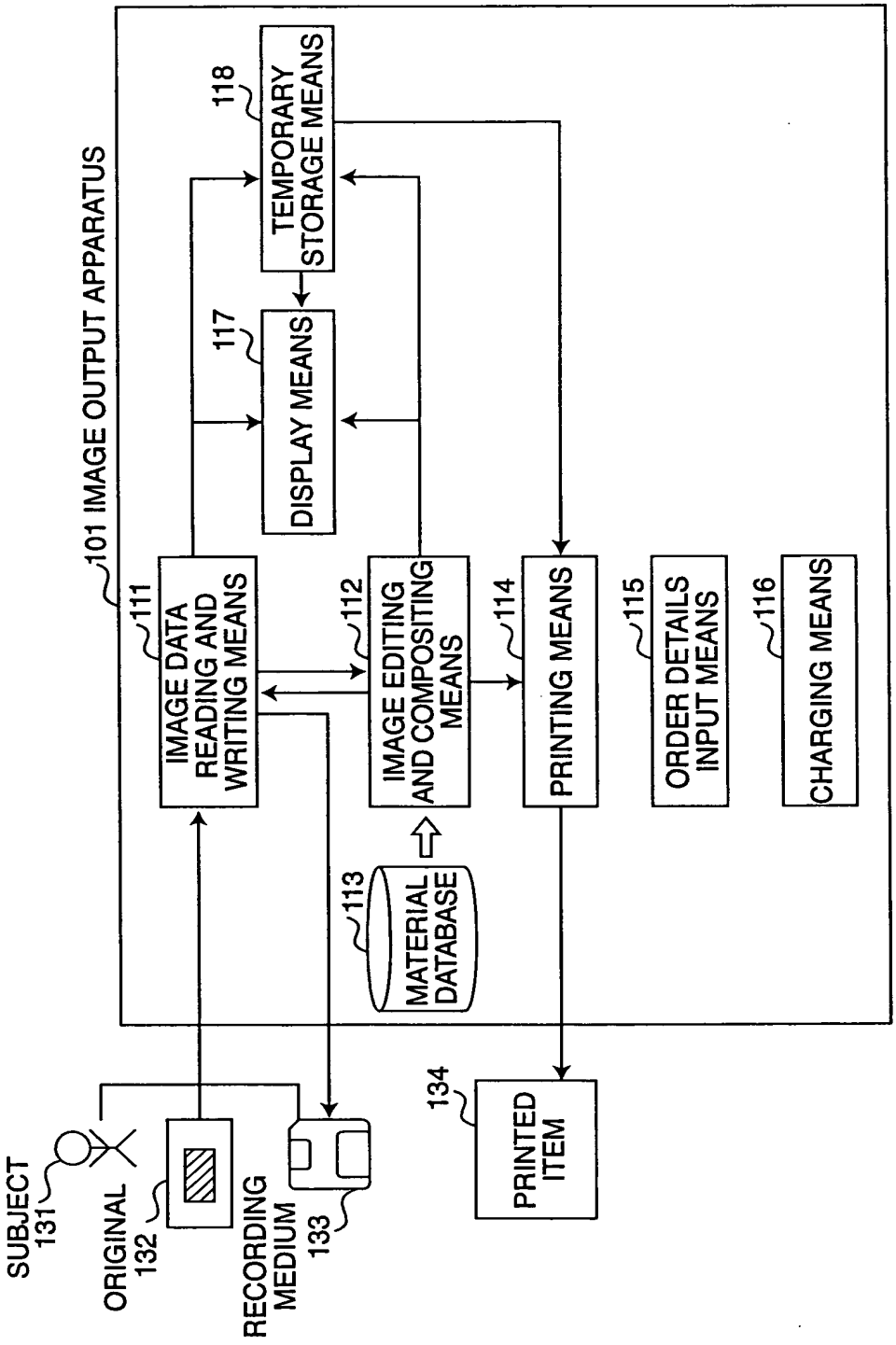

101 IMAGE OUTPUT APPARATUS
118
TEMPORARY STORAGE MEANS
117
DISPLAY MEANS
111
IMAGE DATA READING AND WRITING MEANS
112
IMAGE EDITING AND COMPOSITING MEANS
114
PRINTING MEANS
115
ORDER DETAILS INPUT MEANS
116
CHARGING MEANS
113
MATERIAL DATABASE
SUBJECT 131
ORIGINAL 132
RECORDING MEDIUM 133
134
PRINTED ITEM

FIG.2

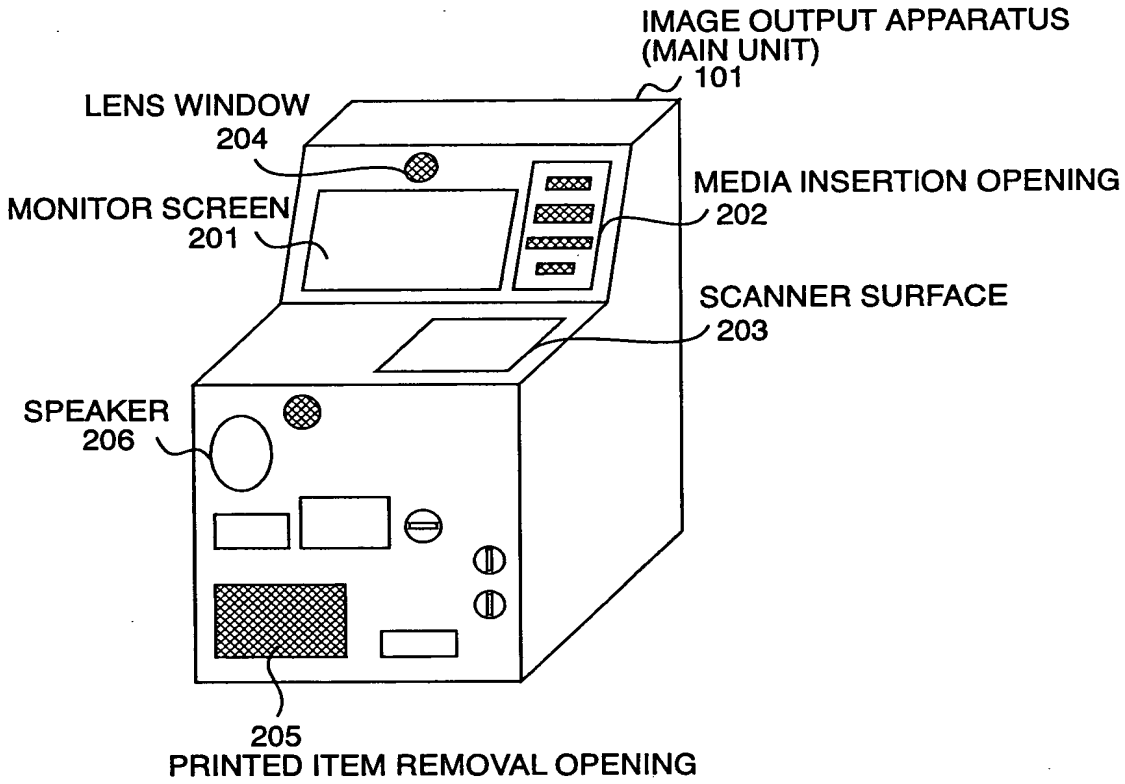


IMAGE OUTPUT APPARATUS
(MAIN UNIT)
101
LENS WINDOW
204
MONITOR SCREEN
201
MEDIA INSERTION OPENING
202
SCANNER SURFACE
203
SPEAKER
206
205
PRINTED ITEM REMOVAL OPENING

FIG.3

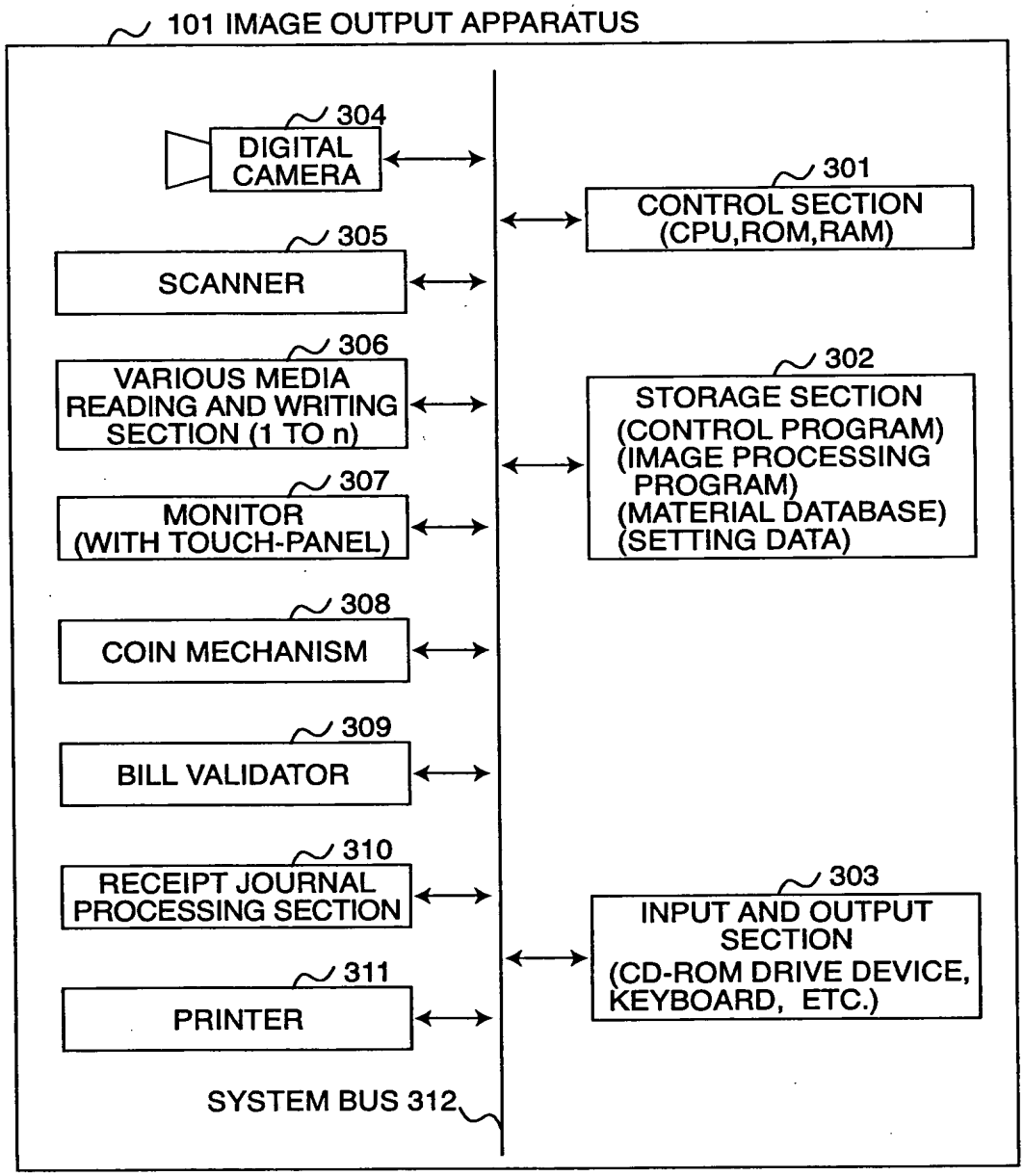

101 IMAGE OUTPUT APPARATUS
304
DIGITAL CAMERA
305
SCANNER
306
VARIOUS MEDIA READING AND WRITING SECTION (1 TO n)
307
MONITOR (WITH TOUCH-PANEL)
308
COIN MECHANISM
309
BILL VALIDATOR
310
RECEIPT JOURNAL PROCESSING SECTION
311
PRINTER
SYSTEM BUS 312
301
CONTROL SECTION (CPU,ROM,RAM)
302
STORAGE SECTION (CONTROL PROGRAM) (IMAGE PROCESSING PROGRAM) (MATERIAL DATABASE) (SETTING DATA)
303
INPUT AND OUTPUT SECTION (CD-ROM DRIVE DEVICE, KEYBOARD, ETC.)

FIG.4

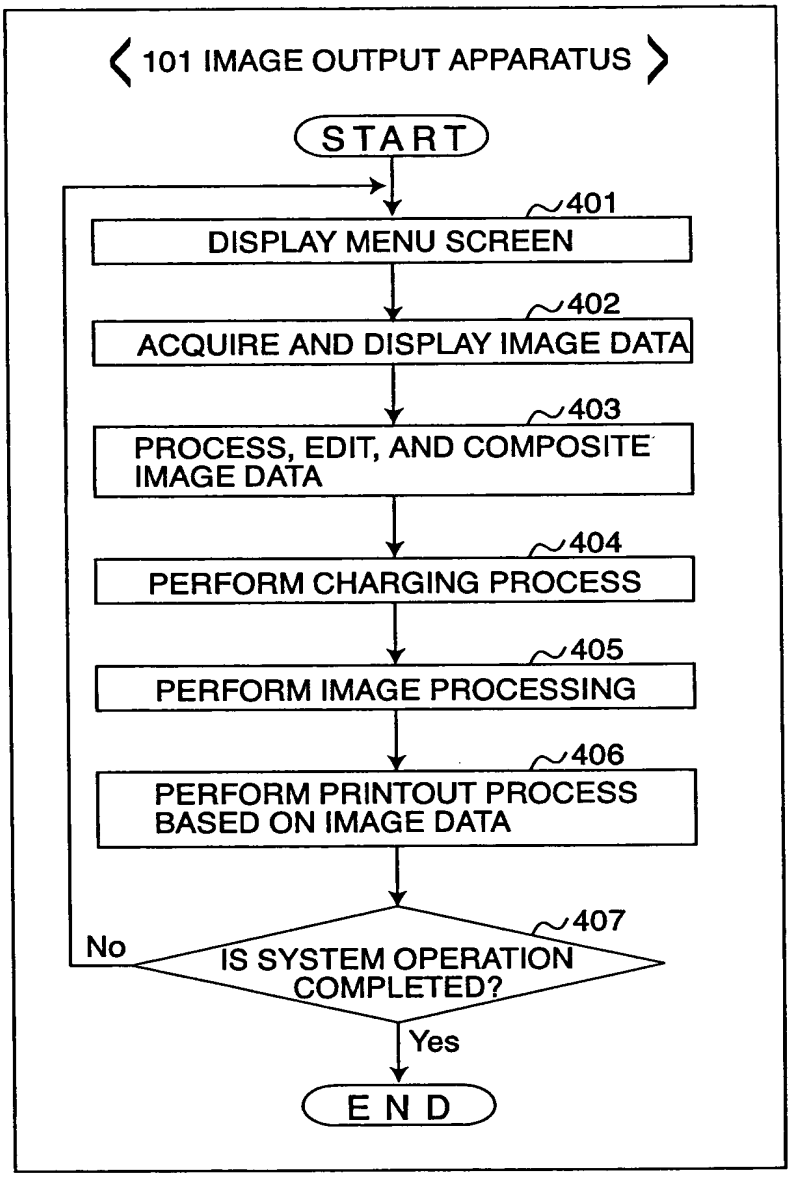

101 IMAGE OUTPUT APPARATUS
START
401
DISPLAY MENU SCREEN
402
ACQUIRE AND DISPLAY IMAGE DATA
403
PROCESS, EDIT, AND COMPOSITE IMAGE DATA
404
PERFORM CHARGING PROCESS
405
PERFORM IMAGE PROCESSING
406
PERFORM PRINTOUT PROCESS BASED ON IMAGE DATA
407
IS SYSTEM OPERATION COMPLETED?
No
Yes
END

FIG.5

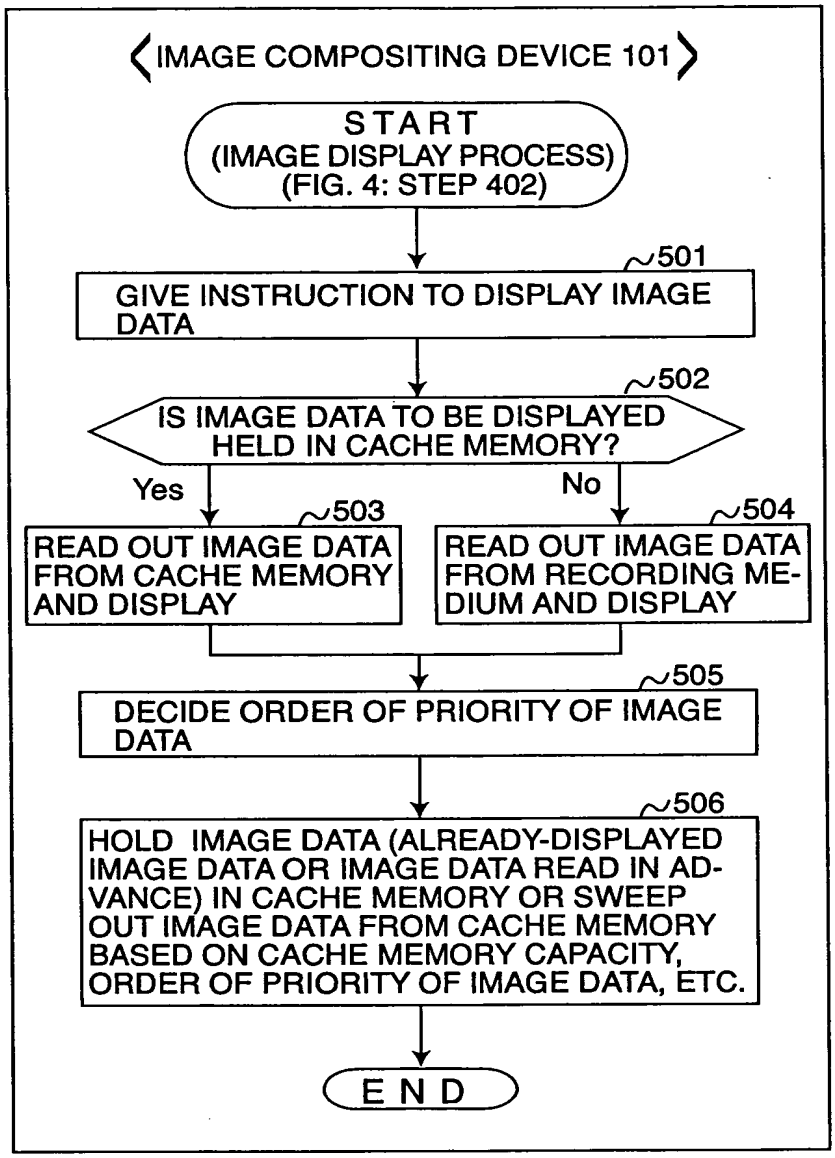


IMAGE COMPOSITING DEVICE 101
START
(IMAGE DISPLAY PROCESS)
(FIG. 4: STEP 402)
501
GIVE INSTRUCTION TO DISPLAY IMAGE DATA
502
IS IMAGE DATA TO BE DISPLAYED HELD IN CACHE MEMORY?
Yes
No
503
READ OUT IMAGE DATA FROM CACHE MEMORY AND DISPLAY
504
READ OUT IMAGE DATA FROM RECORDING MEDIUM AND DISPLAY
505
DECIDE ORDER OF PRIORITY OF IMAGE DATA
506
HOLD IMAGE DATA (ALREADY-DISPLAYED IMAGE DATA OR IMAGE DATA READ IN ADVANCE) IN CACHE MEMORY OR SWEEP OUT IMAGE DATA FROM CACHE MEMORY BASED ON CACHE MEMORY CAPACITY, ORDER OF PRIORITY OF IMAGE DATA, ETC.
END

FIG.6

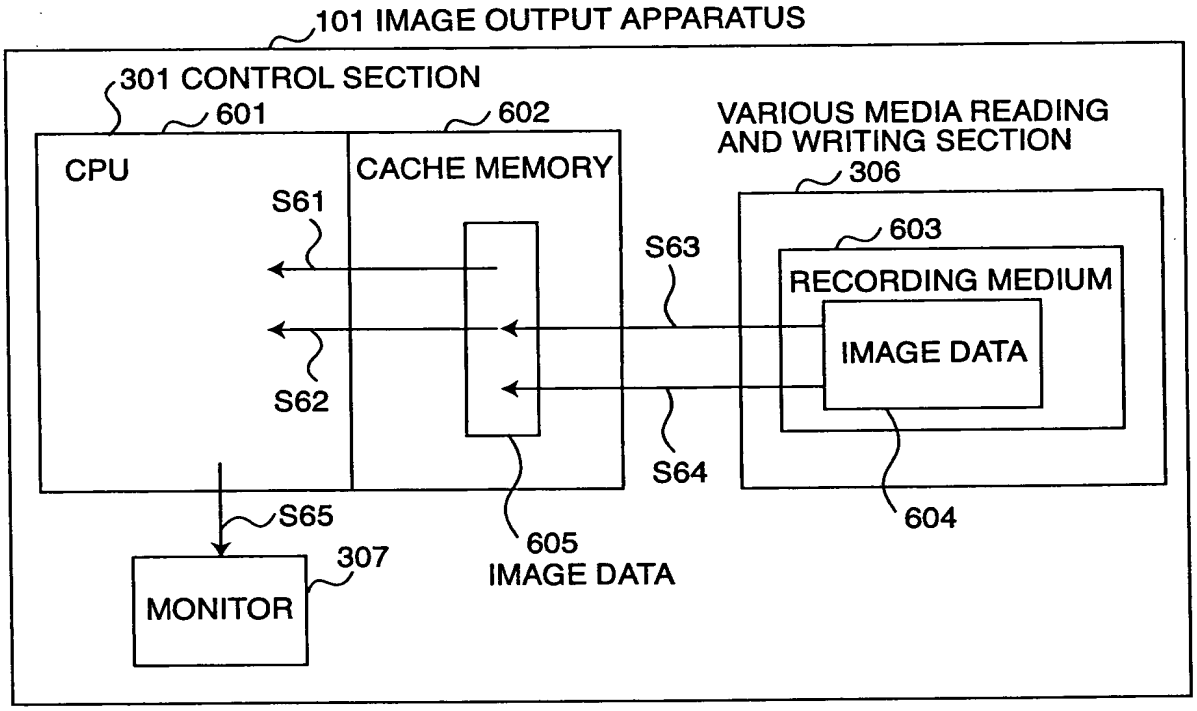

101 IMAGE OUTPUT APPARATUS
301 CONTROL SECTION
601
602
CPU
CACHE MEMORY
VARIOUS MEDIA READING AND WRITING SECTION
306
603
RECORDING MEDIUM
IMAGE DATA
S61
S62
S63
S64
S65
604
605
IMAGE DATA
307
MONITOR

FIG.7

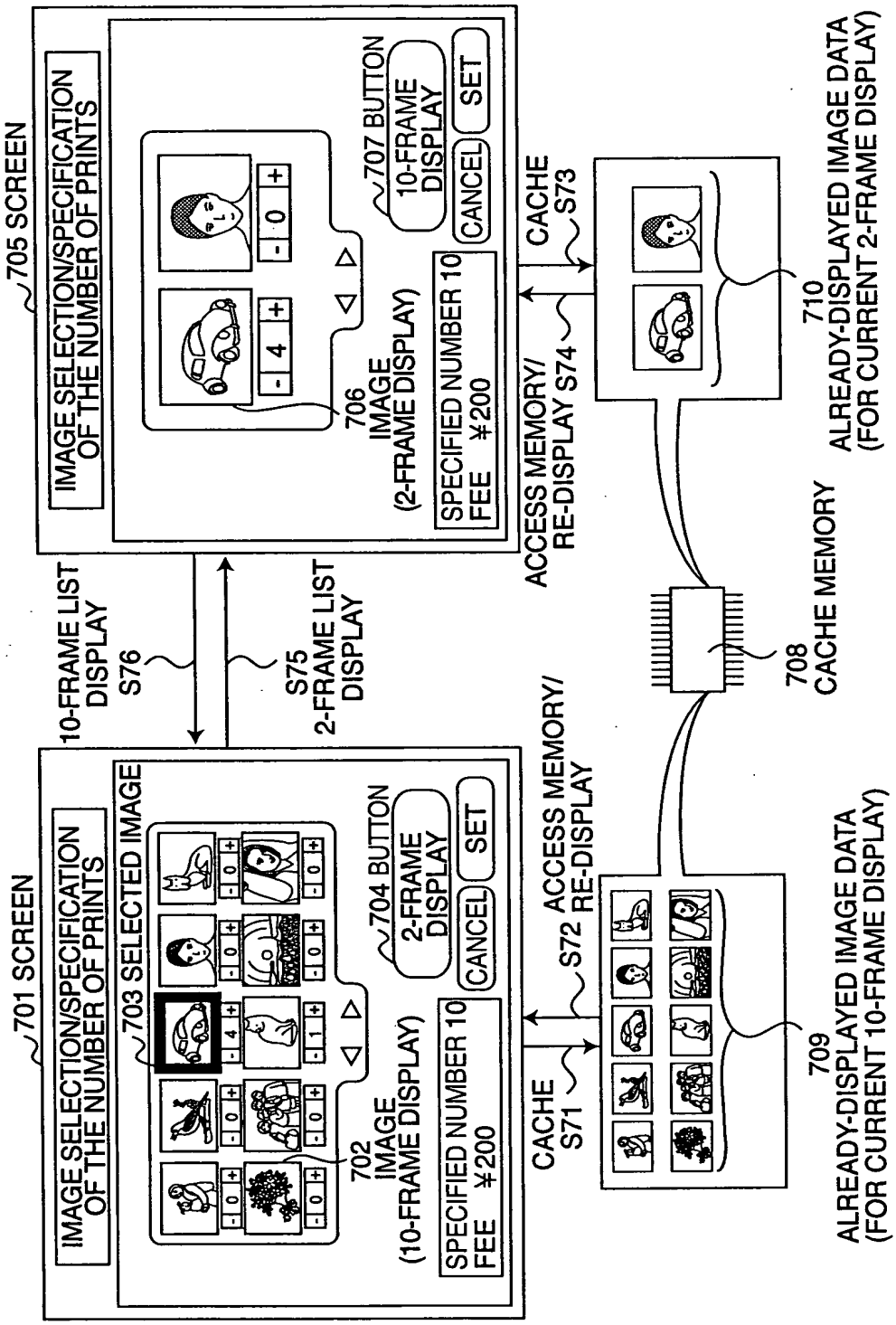

701 SCREEN
IMAGE SELECTION/SPECIFICATION OF THE NUMBER OF PRINTS
703 SELECTED IMAGE
704 BUTTON
2-FRAME DISPLAY
CANCEL
SET
SPECIFIED NUMBER 10
FEE ¥200
702 IMAGE (10-FRAME DISPLAY)
705 SCREEN
IMAGE SELECTION/SPECIFICATION OF THE NUMBER OF PRINTS
707 BUTTON
10-FRAME DISPLAY
CANCEL
SET
SPECIFIED NUMBER 10
FEE ¥200
706 IMAGE (2-FRAME DISPLAY)
10-FRAME LIST DISPLAY S76
S75 2-FRAME LIST DISPLAY
CACHE S71
S72 ACCESS MEMORY/ RE-DISPLAY
ACCESS MEMORY/ RE-DISPLAY S74
CACHE S73
708 CACHE MEMORY
709 ALREADY-DISPLAYED IMAGE DATA (FOR CURRENT 10-FRAME DISPLAY)
710 ALREADY-DISPLAYED IMAGE DATA (FOR CURRENT 2-FRAME DISPLAY)

FIG.8

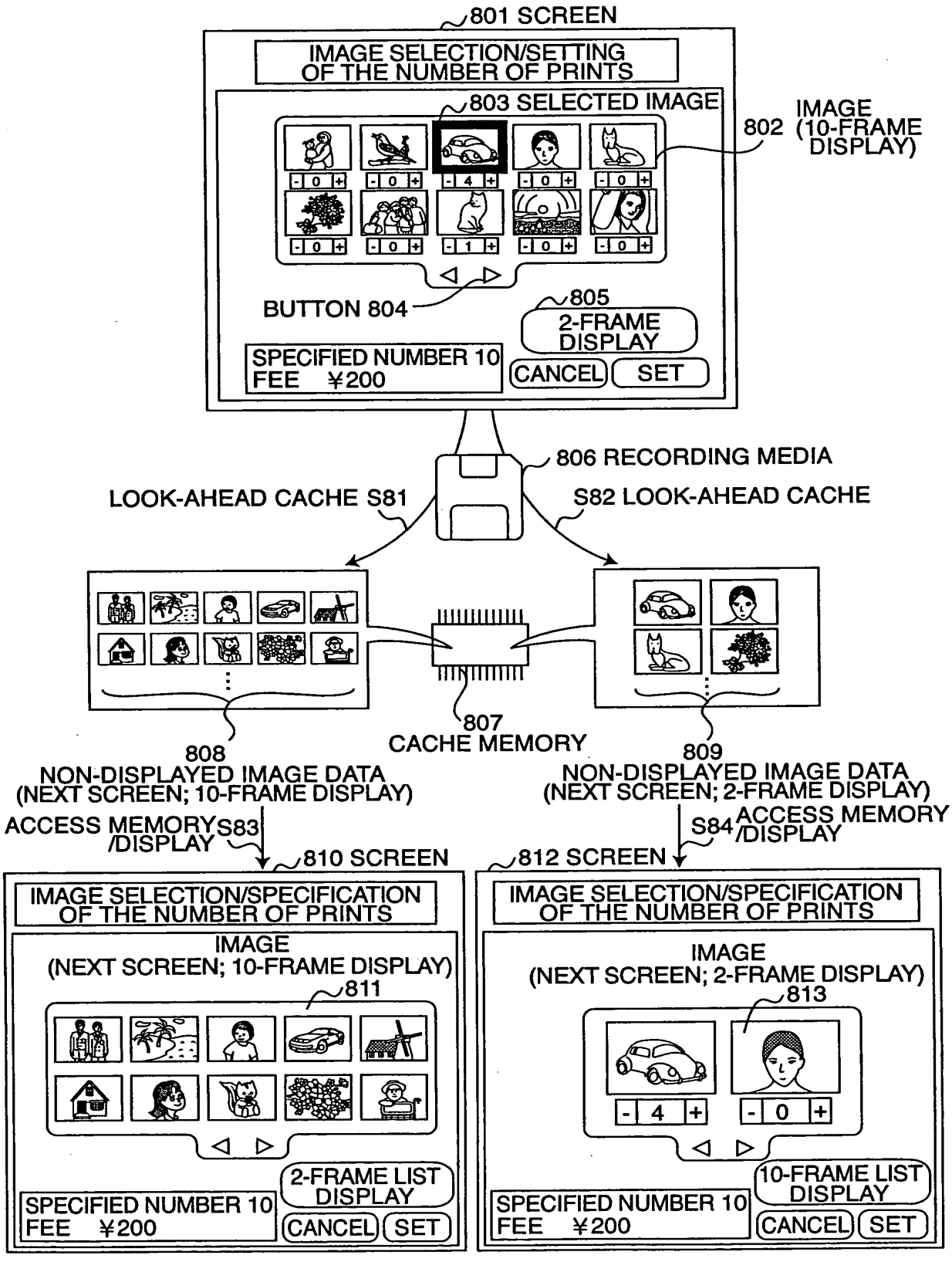

801 SCREEN
IMAGE SELECTION/SETTING OF THE NUMBER OF PRINTS
803 SELECTED IMAGE
802 IMAGE (10-FRAME DISPLAY)
BUTTON 804
805 2-FRAME DISPLAY
SPECIFIED NUMBER 10
FEE ¥200
CANCEL
SET
806 RECORDING MEDIA
LOOK-AHEAD CACHE S81
S82 LOOK-AHEAD CACHE
807 CACHE MEMORY
808 NON-DISPLAYED IMAGE DATA (NEXT SCREEN; 10-FRAME DISPLAY)
809 NON-DISPLAYED IMAGE DATA (NEXT SCREEN; 2-FRAME DISPLAY)
ACCESS MEMORY /DISPLAY S83
S84 ACCESS MEMORY /DISPLAY
810 SCREEN
812 SCREEN
IMAGE SELECTION/SPECIFICATION OF THE NUMBER OF PRINTS
IMAGE (NEXT SCREEN; 10-FRAME DISPLAY)
811
2-FRAME LIST DISPLAY
IMAGE (NEXT SCREEN; 2-FRAME DISPLAY)
813
10-FRAME LIST DISPLAY

FIG.9

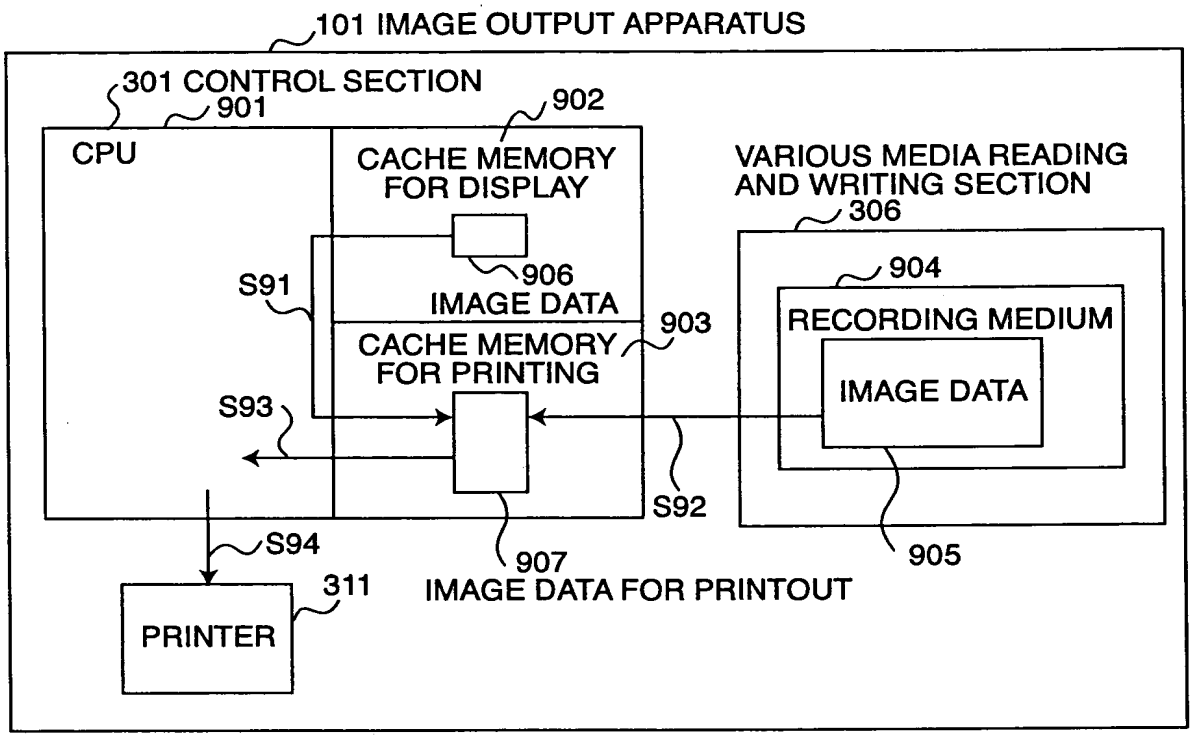

101 IMAGE OUTPUT APPARATUS
301 CONTROL SECTION
901
CPU
902
CACHE MEMORY FOR DISPLAY
906
IMAGE DATA
903
CACHE MEMORY FOR PRINTING
VARIOUS MEDIA READING AND WRITING SECTION
306
904
RECORDING MEDIUM
IMAGE DATA
905
S91
S92
S93
S94
907
IMAGE DATA FOR PRINTOUT
311
PRINTER

FIG.10

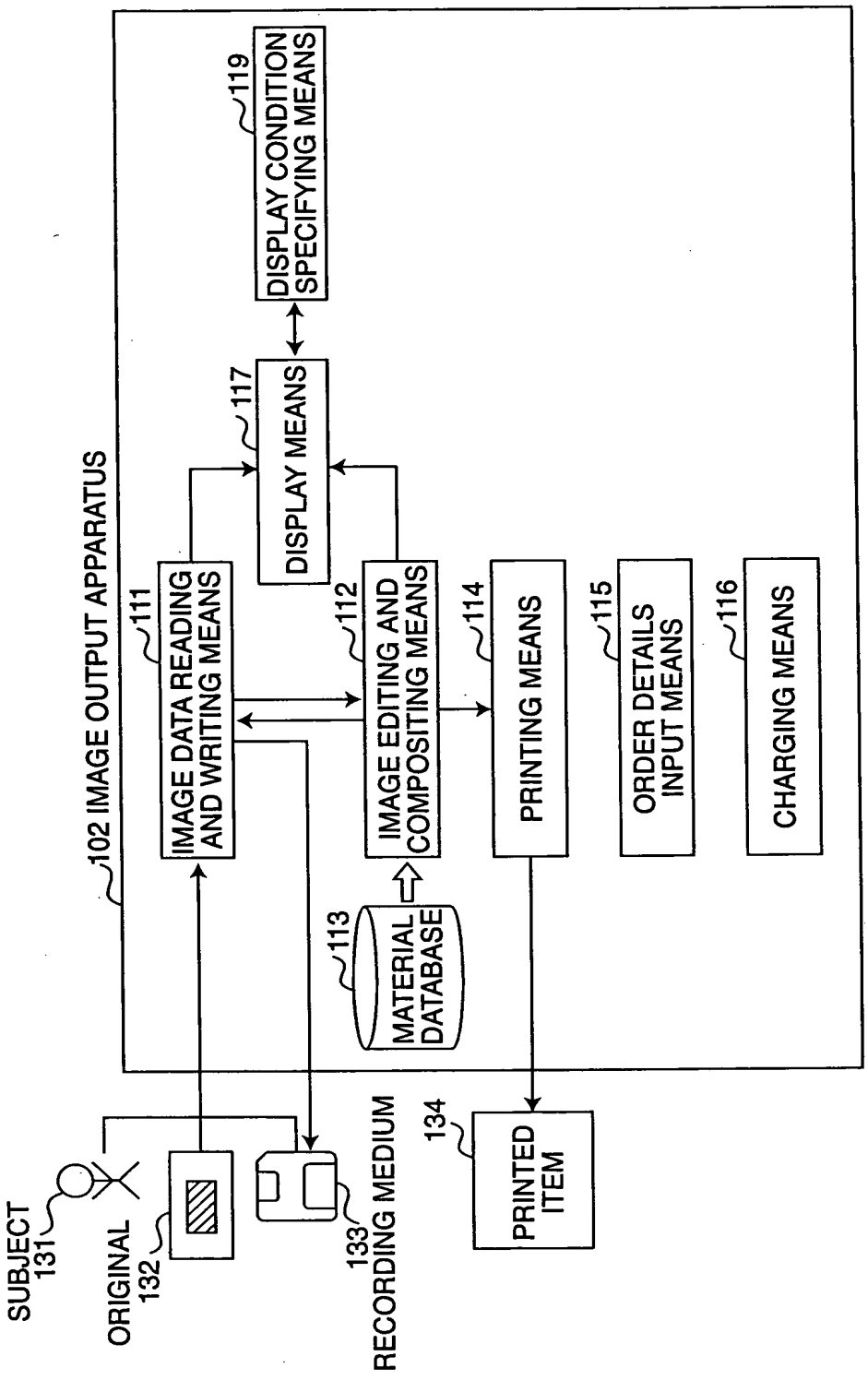

102 IMAGE OUTPUT APPARATUS
119 DISPLAY CONDITION SPECIFYING MEANS
117 DISPLAY MEANS
111 IMAGE DATA READING AND WRITING MEANS
112 IMAGE EDITING AND COMPOSITING MEANS
114 PRINTING MEANS
115 ORDER DETAILS INPUT MEANS
116 CHARGING MEANS
113 MATERIAL DATABASE
SUBJECT 131
ORIGINAL 132
133 RECORDING MEDIUM
134 PRINTED ITEM

FIG.11

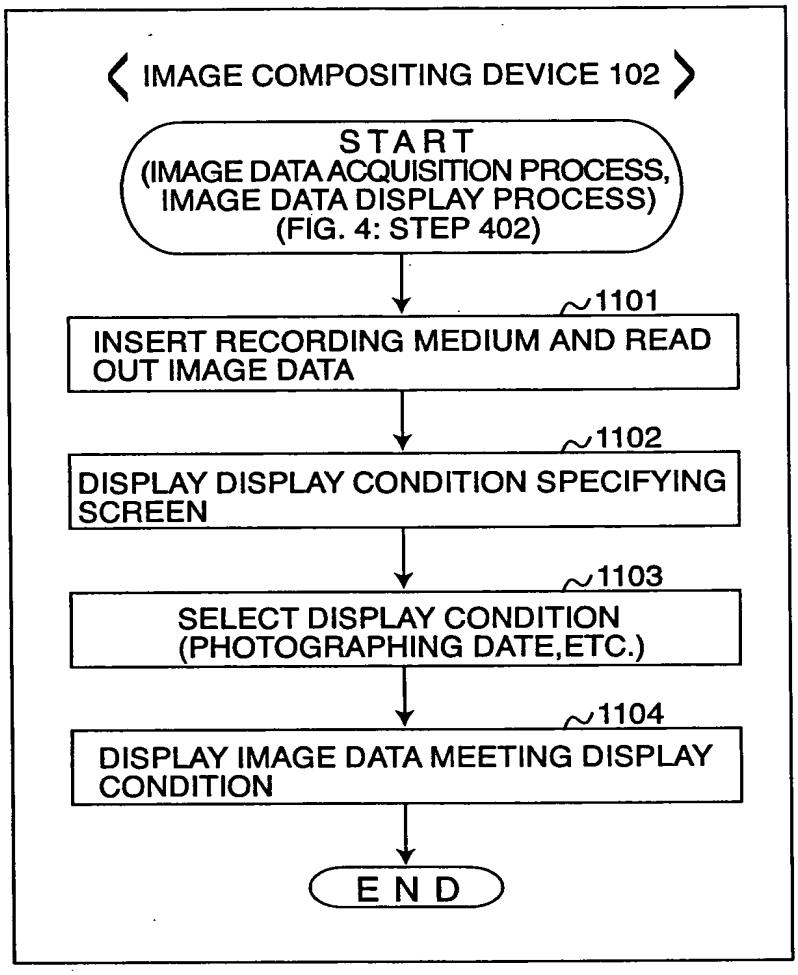


IMAGE COMPOSITING DEVICE 102
START
(IMAGE DATA ACQUISITION PROCESS, IMAGE DATA DISPLAY PROCESS)
(FIG. 4: STEP 402)
1101
INSERT RECORDING MEDIUM AND READ OUT IMAGE DATA
1102
DISPLAY DISPLAY CONDITION SPECIFYING SCREEN
1103
SELECT DISPLAY CONDITION (PHOTOGRAPHING DATE,ETC.)
1104
DISPLAY IMAGE DATA MEETING DISPLAY CONDITION
END

FIG.12

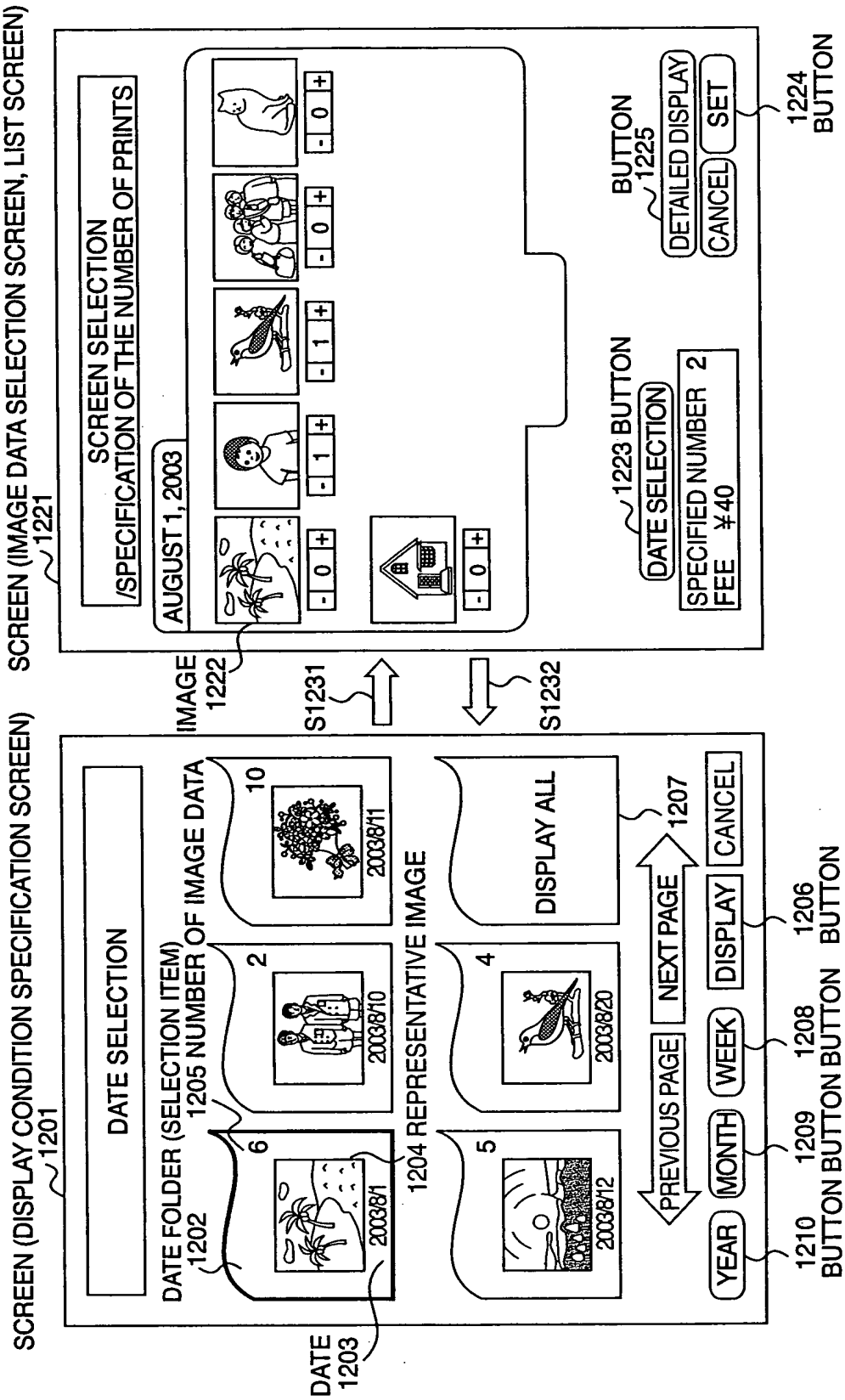

SCREEN (DISPLAY CONDITION SPECIFICATION SCREEN)
1201
DATE SELECTION
DATE FOLDER (SELECTION ITEM)
1202
1205 NUMBER OF IMAGE DATA
6
2
10
2003/8/1
2003/8/10
2003/8/11
DATE
1203
1204 REPRESENTATIVE IMAGE
5
4
2003/8/12
2003/8/20
DISPLAY ALL
1207
PREVIOUS PAGE
NEXT PAGE
YEAR
MONTH
WEEK
DISPLAY
CANCEL
1210
1209
1208
1206
BUTTON BUTTON BUTTON BUTTON
S1231
S1232
IMAGE
1222
SCREEN (IMAGE DATA SELECTION SCREEN, LIST SCREEN)
1221
SCREEN SELECTION
/SPECIFICATION OF THE NUMBER OF PRINTS
AUGUST 1, 2003
1223 BUTTON
DATE SELECTION
SPECIFIED NUMBER 2
FEE ¥40
BUTTON
1225
DETAILED DISPLAY
CANCEL
SET
1224
BUTTON

FIG.13

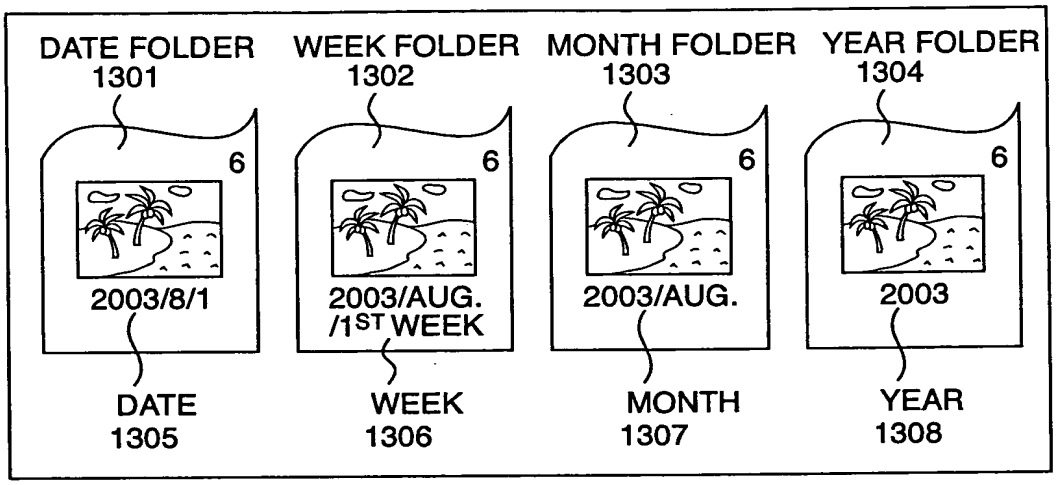

DATE FOLDER
1301
WEEK FOLDER
1302
MONTH FOLDER
1303
YEAR FOLDER
1304
6
6
6
6
2003/8/1
2003/AUG.
/1ST WEEK
2003/AUG.
2003
DATE
1305
WEEK
1306
MONTH
1307
YEAR
1308

FIG.14

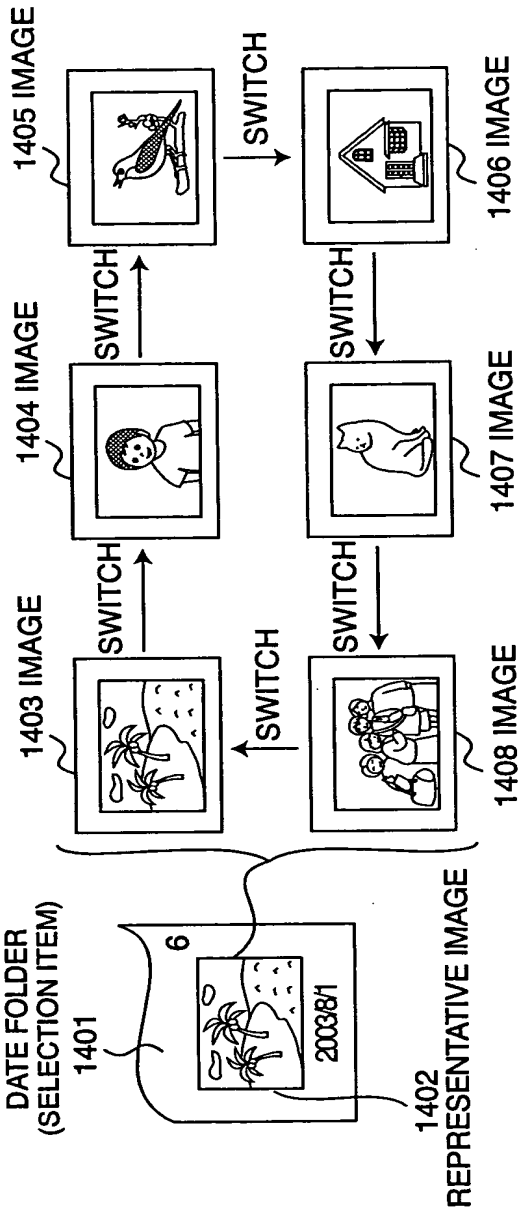

1405 IMAGE
SWITCH
1406 IMAGE
SWITCH
SWITCH
1404 IMAGE
1407 IMAGE
SWITCH
SWITCH
1403 IMAGE
SWITCH
1408 IMAGE
DATE FOLDER
(SELECTION ITEM)
1401
6
2003/8/1
1402
REPRESENTATIVE IMAGE

FIG.15

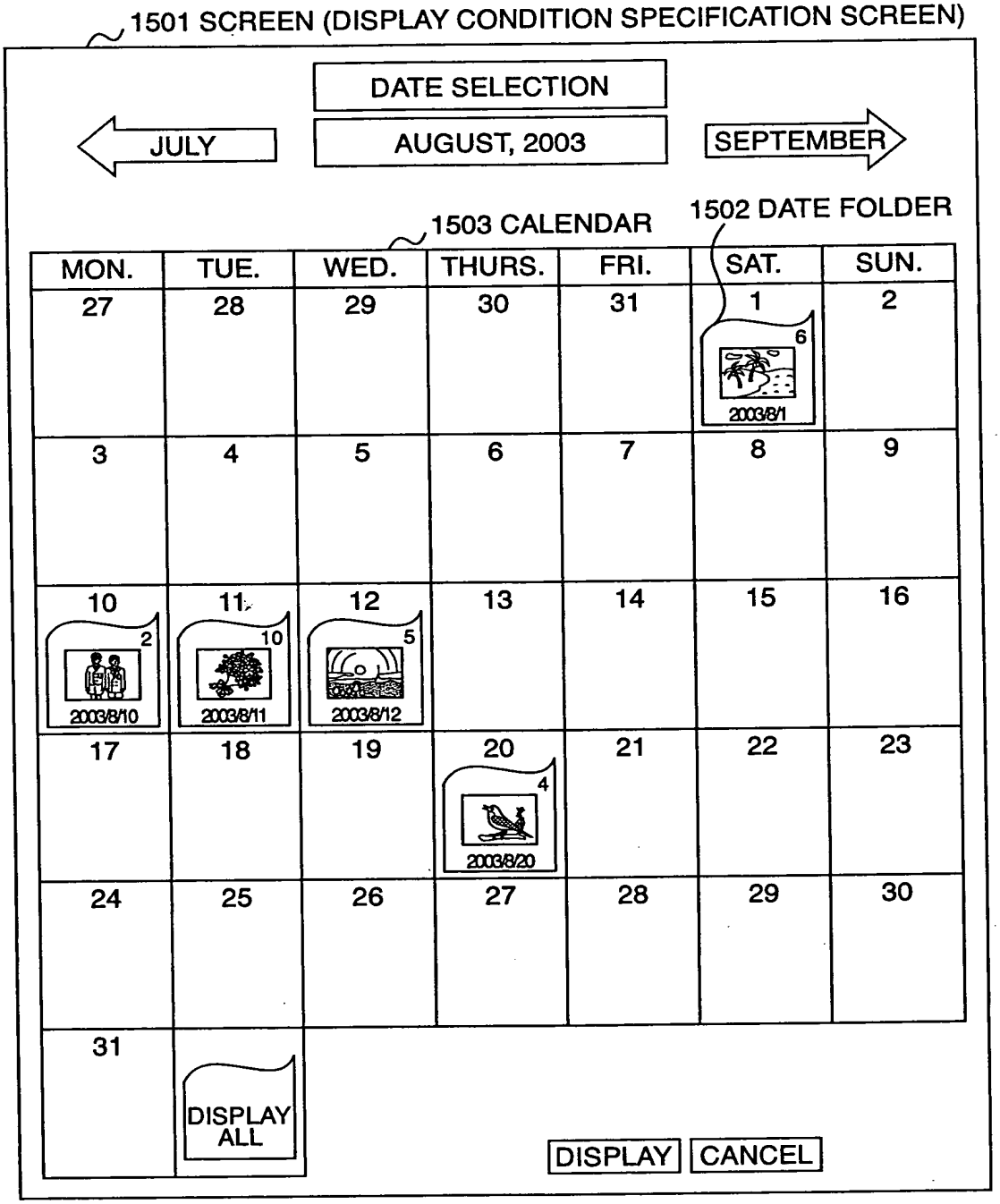

1501 SCREEN (DISPLAY CONDITION SPECIFICATION SCREEN)
DATE SELECTION
JULY
AUGUST, 2003
SEPTEMBER
1503 CALENDAR
1502 DATE FOLDER
MON.
TUE.
WED.
THURS.
FRI.
SAT.
SUN.
27
28
29
30
31
1
6
2003/8/1
2
3
4
5
6
7
8
9
10
2
2003/8/10
11
10
2003/8/11
12
5
2003/8/12
13
14
15
16
17
18
19
20
4
2003/8/20
21
22
23
24
25
26
27
28
29
30
31
DISPLAY ALL
DISPLAY
CANCEL

FIG.16

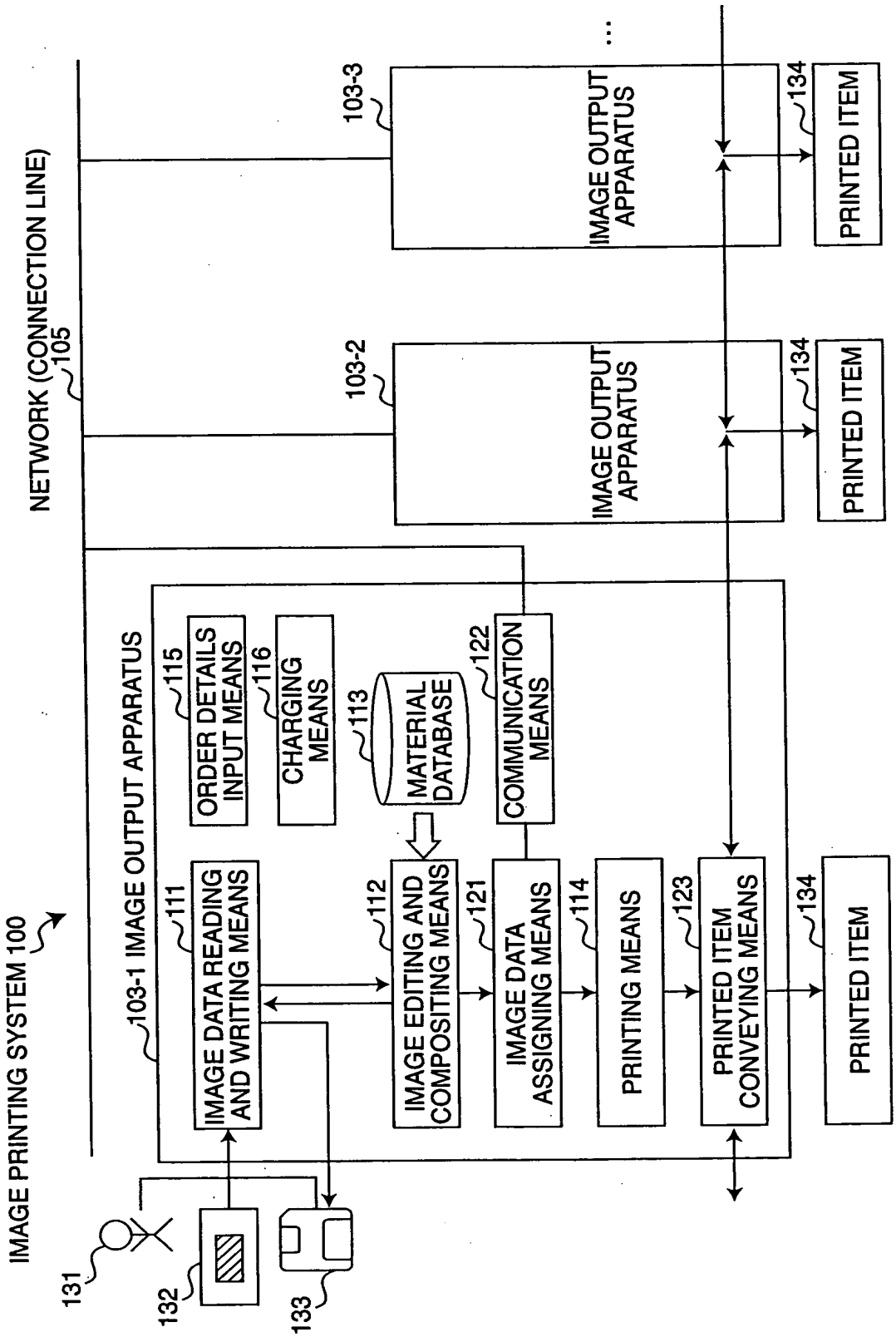


IMAGE PRINTING SYSTEM 100
NETWORK (CONNECTION LINE)
105
103-1 IMAGE OUTPUT APPARATUS
IMAGE DATA READING AND WRITING MEANS
111
ORDER DETAILS INPUT MEANS
115
CHARGING MEANS
116
MATERIAL DATABASE
113
COMMUNICATION MEANS
122
IMAGE EDITING AND COMPOSITING MEANS
112
IMAGE DATA ASSIGNING MEANS
121
PRINTING MEANS
114
PRINTED ITEM CONVEYING MEANS
123
PRINTED ITEM
134
131
132
133
103-2
IMAGE OUTPUT APPARATUS
PRINTED ITEM
134
103-3
IMAGE OUTPUT APPARATUS
PRINTED ITEM
134

FIG.17

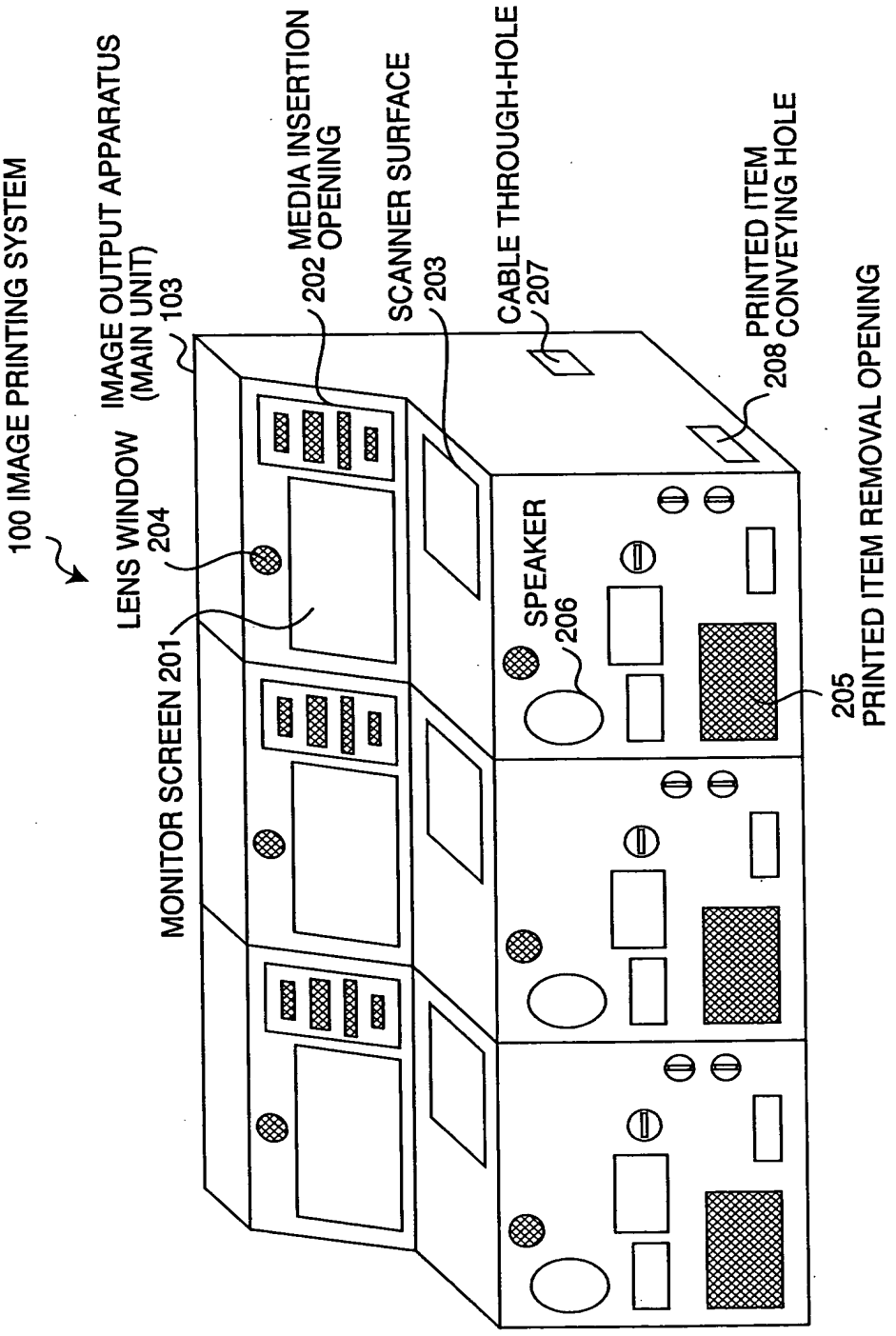

100 IMAGE PRINTING SYSTEM
IMAGE OUTPUT APPARATUS (MAIN UNIT) 103
MEDIA INSERTION OPENING 202
SCANNER SURFACE 203
CABLE THROUGH-HOLE 207
PRINTED ITEM CONVEYING HOLE 208
LENS WINDOW 204
MONITOR SCREEN 201
SPEAKER 206
PRINTED ITEM REMOVAL OPENING 205

FIG.18

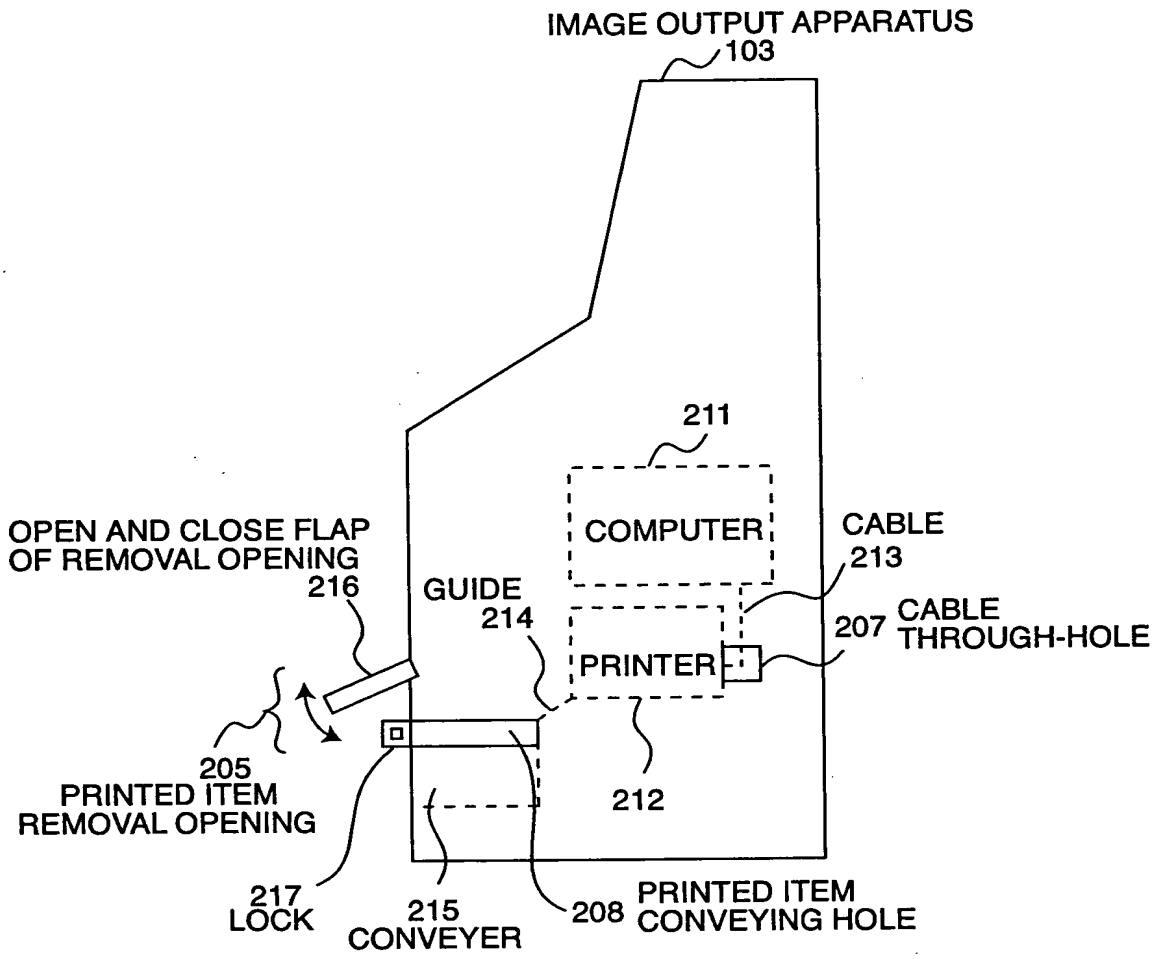


IMAGE OUTPUT APPARATUS
103
211
COMPUTER
CABLE
213
OPEN AND CLOSE FLAP
OF REMOVAL OPENING
216
GUIDE
214
207
CABLE
THROUGH-HOLE
PRINTER
205
PRINTED ITEM
REMOVAL OPENING
212
217
LOCK
215
CONVEYER
208
PRINTED ITEM
CONVEYING HOLE

FIG.19

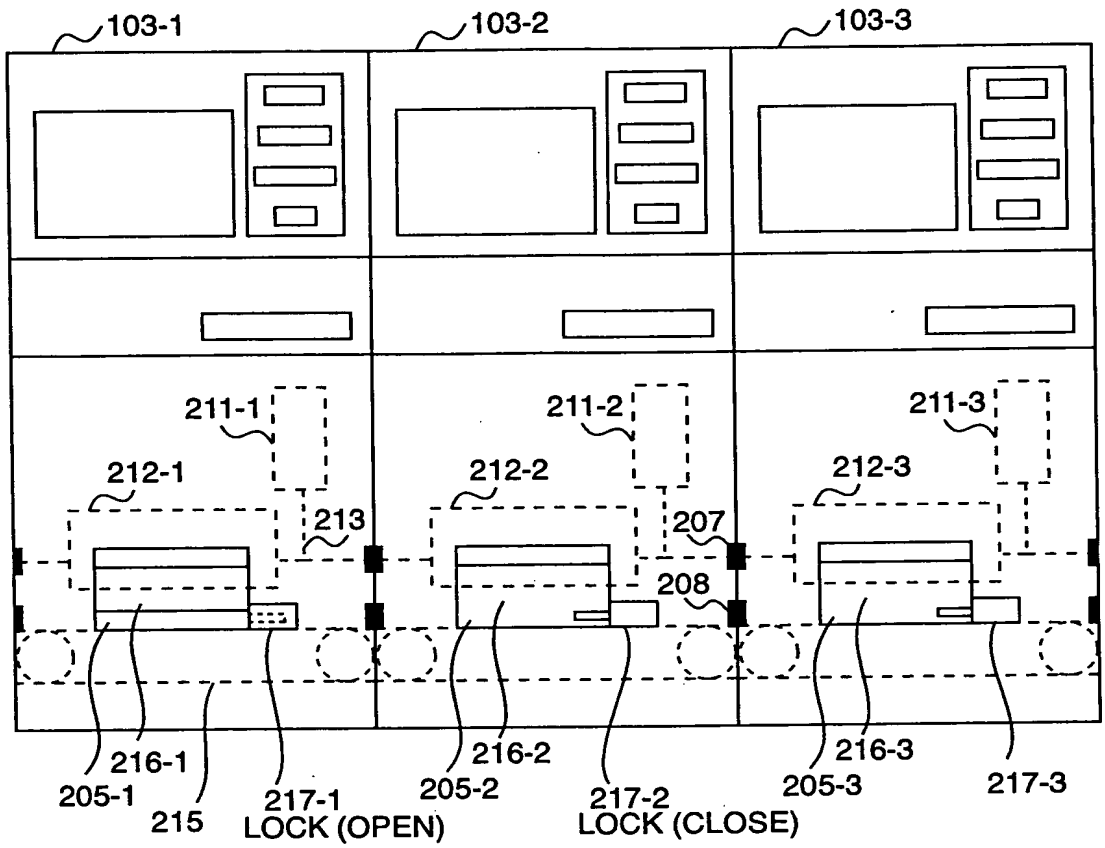

103-1
103-2
103-3
211-1
212-1
213
211-2
212-2
207
208
211-3
212-3
205-1
216-1
215
217-1
LOCK (OPEN)
205-2
216-2
217-2
LOCK (CLOSE)
205-3
216-3
217-3

FIG.20

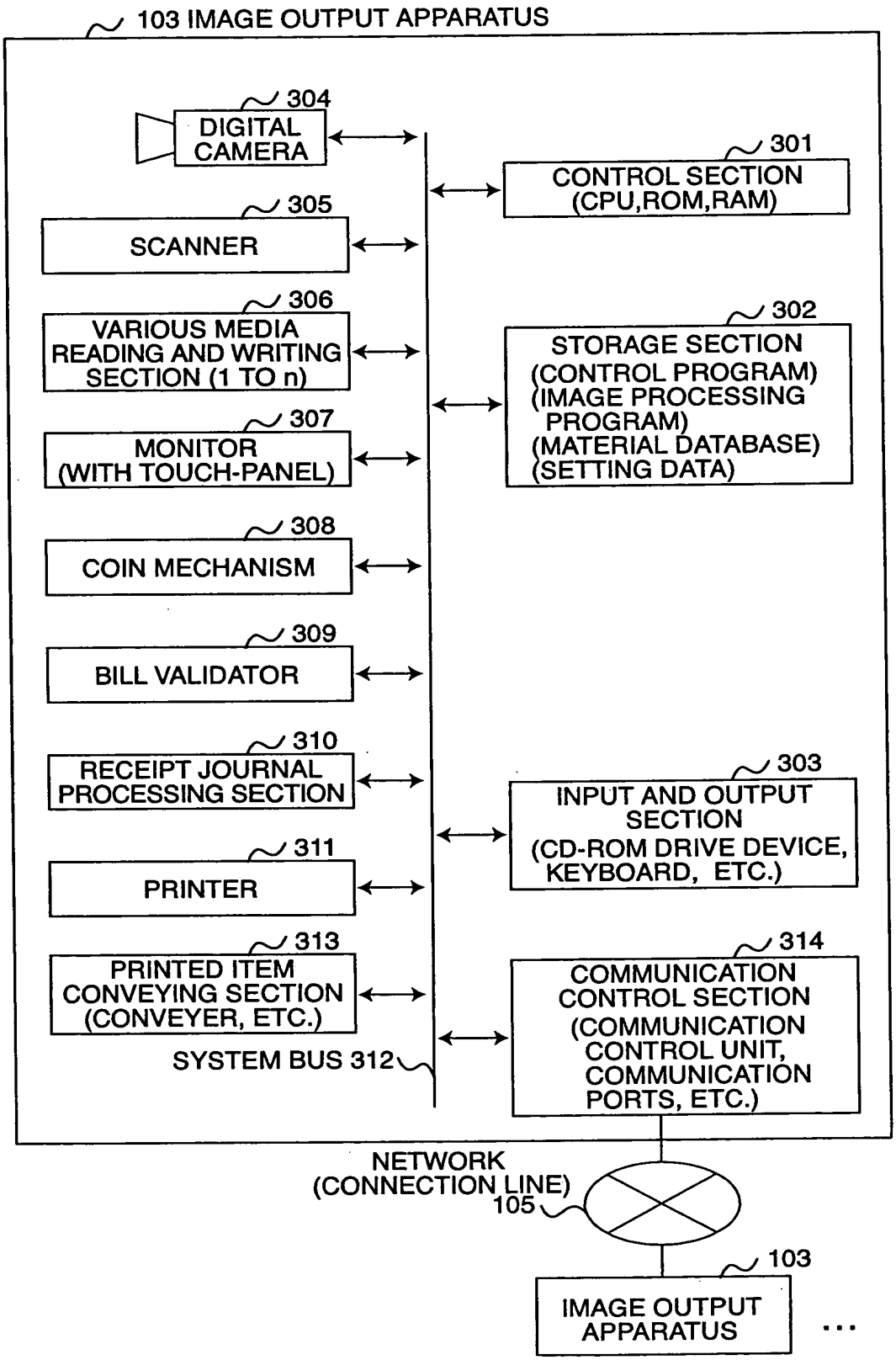

103 IMAGE OUTPUT APPARATUS
304
DIGITAL CAMERA
305
SCANNER
306
VARIOUS MEDIA READING AND WRITING SECTION (1 TO n)
307
MONITOR (WITH TOUCH-PANEL)
308
COIN MECHANISM
309
BILL VALIDATOR
310
RECEIPT JOURNAL PROCESSING SECTION
311
PRINTER
313
PRINTED ITEM CONVEYING SECTION (CONVEYER, ETC.)
SYSTEM BUS 312
301
CONTROL SECTION (CPU,ROM,RAM)
302
STORAGE SECTION (CONTROL PROGRAM) (IMAGE PROCESSING PROGRAM) (MATERIAL DATABASE) (SETTING DATA)
303
INPUT AND OUTPUT SECTION (CD-ROM DRIVE DEVICE, KEYBOARD, ETC.)
314
COMMUNICATION CONTROL SECTION (COMMUNICATION CONTROL UNIT, COMMUNICATION PORTS, ETC.)
NETWORK (CONNECTION LINE)
105
103
IMAGE OUTPUT APPARATUS
...

FIG.21

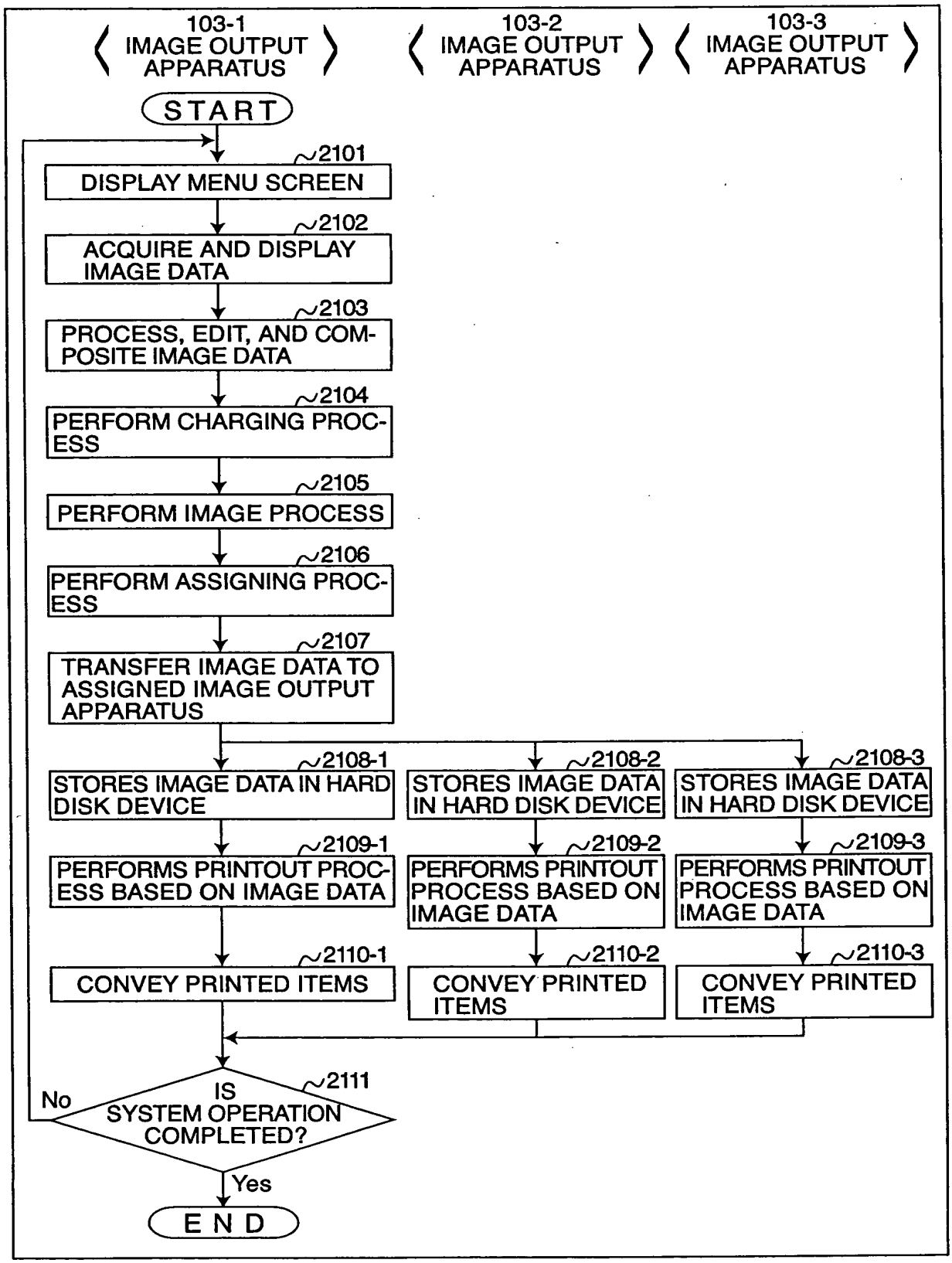

103-1 IMAGE OUTPUT APPARATUS
103-2 IMAGE OUTPUT APPARATUS
103-3 IMAGE OUTPUT APPARATUS
START
2101
DISPLAY MENU SCREEN
2102
ACQUIRE AND DISPLAY IMAGE DATA
2103
PROCESS, EDIT, AND COMPOSITE IMAGE DATA
2104
PERFORM CHARGING PROCESS
2105
PERFORM IMAGE PROCESS
2106
PERFORM ASSIGNING PROCESS
2107
TRANSFER IMAGE DATA TO ASSIGNED IMAGE OUTPUT APPARATUS
2108-1
STORES IMAGE DATA IN HARD DISK DEVICE
2108-2
STORES IMAGE DATA IN HARD DISK DEVICE
2108-3
STORES IMAGE DATA IN HARD DISK DEVICE
2109-1
PERFORMS PRINTOUT PROCESS BASED ON IMAGE DATA
2109-2
PERFORMS PRINTOUT PROCESS BASED ON IMAGE DATA
2109-3
PERFORMS PRINTOUT PROCESS BASED ON IMAGE DATA
2110-1
CONVEY PRINTED ITEMS
2110-2
CONVEY PRINTED ITEMS
2110-3
CONVEY PRINTED ITEMS
2111
IS SYSTEM OPERATION COMPLETED?
No
Yes
END

FIG.22

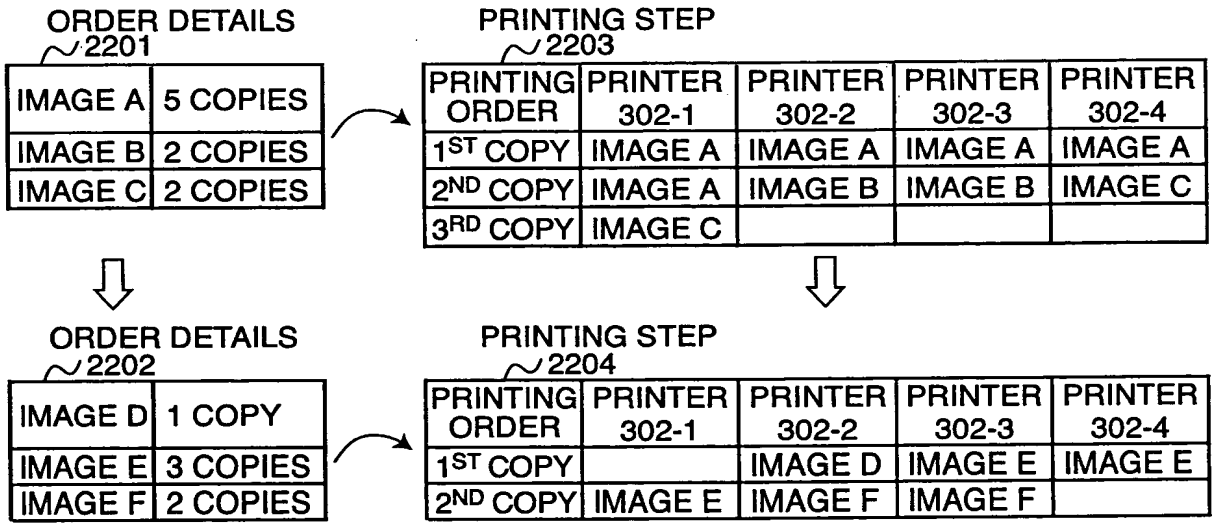

ORDER DETAILS
2201
IMAGE A
5 COPIES
IMAGE B
2 COPIES
IMAGE C
2 COPIES
PRINTING STEP
2203
PRINTING ORDER
PRINTER 302-1
PRINTER 302-2
PRINTER 302-3
PRINTER 302-4
1ST COPY
IMAGE A
IMAGE A
IMAGE A
IMAGE A
2ND COPY
IMAGE A
IMAGE B
IMAGE B
IMAGE C
3RD COPY
IMAGE C
ORDER DETAILS
2202
IMAGE D
1 COPY
IMAGE E
3 COPIES
IMAGE F
2 COPIES
PRINTING STEP
2204
PRINTING ORDER
PRINTER 302-1
PRINTER 302-2
PRINTER 302-3
PRINTER 302-4
1ST COPY
IMAGE D
IMAGE E
IMAGE E
2ND COPY
IMAGE E
IMAGE F
IMAGE F

FIG.23

ORDER DETAILS
2301

IMAGE A	5 COPIES
IMAGE B	2 COPIES
IMAGE C	2 COPIES

PRINTING STEP
2302

PRINTING ORDER	PRINTER 302-1	PRINTER 302-2	PRINTER 302-3	PRINTER 302-4
1ST COPY	IMAGE A	IMAGE B	IMAGE C	
2ND COPY	IMAGE A	IMAGE B	IMAGE C	
3RD COPY	IMAGE A			
4TH COPY	IMAGE A			
5TH COPY	IMAGE A			

FIG.24

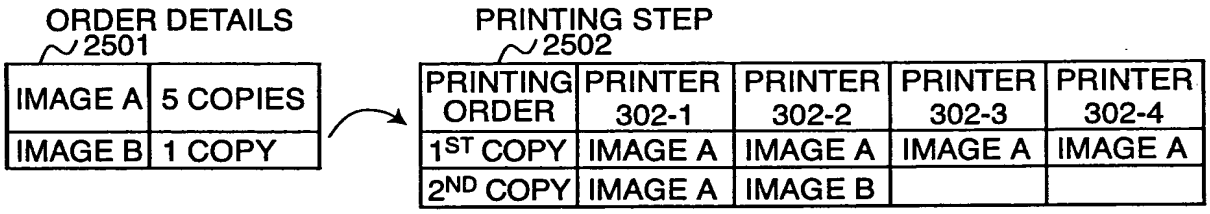
ORDER DETAILS
2401

IMAGE A	3 COPIES
IMAGE B	1 COPY
IMAGE C	1 COPY
IMAGE D	1 COPY
IMAGE E	1 COPY
IMAGE F	1 COPY
IMAGE G	1 COPY
IMAGE H	1 COPY

PRINTING STEP
2402

PRINTING ORDER	PRINTER 302-1	PRINTER 302-2	PRINTER 302-3	PRINTER 302-4
1ST COPY	IMAGE A	IMAGE B	IMAGE C	IMAGE D
2ND COPY	IMAGE A	IMAGE E	IMAGE F	IMAGE G
3RD COPY	IMAGE A	IMAGE H		

FIG.25



ORDER DETAILS
2501

IMAGE A	5 COPIES
IMAGE B	1 COPY

PRINTING STEP
2502

PRINTING ORDER	PRINTER 302-1	PRINTER 302-2	PRINTER 302-3	PRINTER 302-4
1ST COPY	IMAGE A	IMAGE A	IMAGE A	IMAGE A
2ND COPY	IMAGE A	IMAGE B		

FIG.26

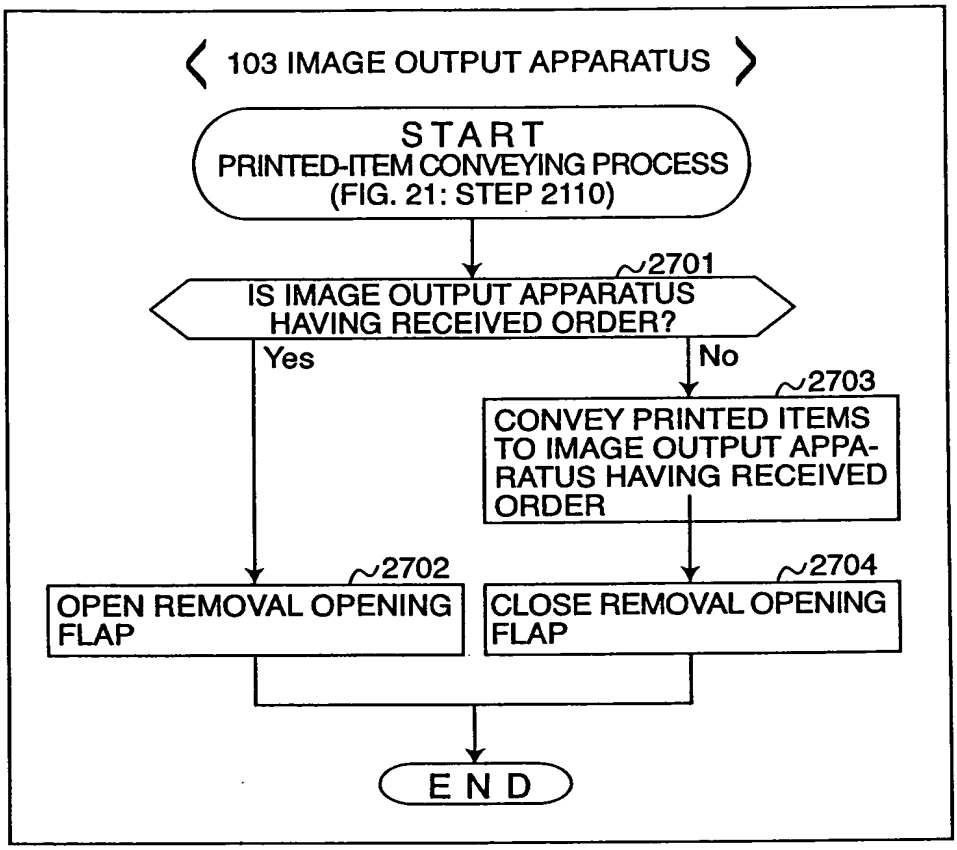
ORDER DETAILS
2601

IMAGE A	8 COPIES
IMAGE B	8 COPIES

PRINTING STEP
2602

PRINTING ORDER	PRINTER 302-1	PRINTER 302-2	PRINTER 302-3	PRINTER 302-4
1ST COPY	IMAGE A	IMAGE A	IMAGE A	IMAGE A
2ND COPY	IMAGE A	IMAGE A	IMAGE A	
3RD COPY	IMAGE A	IMAGE B	IMAGE B	IMAGE B
4TH COPY	IMAGE B	IMAGE B	IMAGE B	
5TH COPY	IMAGE B	IMAGE B		

FIG.27


103 IMAGE OUTPUT APPARATUS
START
PRINTED-ITEM CONVEYING PROCESS
(FIG. 21: STEP 2110)
2701
IS IMAGE OUTPUT APPARATUS HAVING RECEIVED ORDER?
Yes
No
2703
CONVEY PRINTED ITEMS TO IMAGE OUTPUT APPARATUS HAVING RECEIVED ORDER
2702
OPEN REMOVAL OPENING FLAP
2704
CLOSE REMOVAL OPENING FLAP
END